

REMARKS

Claims 1-3, 6-9, 11-12, 14-57, 59-69, and 71-74 are currently pending in the application.

35 U.S.C. § 103 Rejections:

Claims 1-3, 6-9, 11-12, 16-20, 26-27, 29-32, 46-57, 59-61, 69 and 71-74 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Edwards, U.S. Patent Application Publication 2004/0059825, in view of IEEE 802.11 ('IEEE'). Claims 14-15, 21-25, 28, 33-35, 39-45, 62 and 65-68 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Edwards in view of IEEE and in further view of non-patent literature by Cox. Applicant respectfully traverses these rejections.

The cited references, taken singly or in combination, fail to teach or suggest all of the elements of the independent claims. Independent claim 1 recites, in pertinent part:

A method of performing encrypted WLAN (Wireless Local Area Network) communication, the method comprising: operating driver software to perform a connection set-up for said encrypted WLAN communication; and operating a WLAN chip to perform data frame encapsulation and decapsulation during said encrypted WLAN communication ...wherein said data frame encapsulation and decapsulation is performed on a single-purpose hardware of said WLAN chip without executing software-implemented instructions of said driver software, wherein performing said encrypted WLAN communication further comprises obtaining a plurality of data frames intended for said data frame encapsulation from driver software... wherein performing said encrypted WLAN communication further comprises selecting one of the plurality of data frames for said data frame encapsulation by performing a prioritization algorithm implemented on the single-purpose hardware. (Emphasis added).

Independent claims 46, 69, and 71 recite combinations of features that include elements similar to those highlighted above.

In the 'Response to Argument's section of the present office action, the Examiner states the following:

The Examiner respectfully disagrees that Edwards does not teach the limitation "wherein said data frame encapsulation and decapsulation is performed on a single purpose hardware of said WLAN chip without executing software-implemented instructions of said driver software." Edwards in Figure 6 shows the Hardware-base MAC (24B) of Figure 4 comprising the encryption (42), decryption (50), and the checksum generator (44) engines. As previously state, the Examiner interprets encapsulation and decapsulation as encryption and decryption. (Emphasis added)

Applicant respectfully disagrees with the Examiner's contention, and submits that not only does Edwards fail to teach or suggest "wherein said data frame encapsulation and decapsulation is performed on a single purpose hardware of said WLAN chip without executing software-implemented instructions of said driver software" as recited in claim 1, but provides a number of teachings to the contrary. In particular, Edwards provides teachings that encryption is performed by hardware-based MAC 24B based on instructions provided by software-based MAC 24A, as will be discussed below.

Edwards further teaches that processing instructions are provided by software-based MAC 24A to hardware-based MAC 24B in a command structure for each packet. In paragraph [0060], lines 4-10, Edwards states the following:

In addition, as will be described, software-based MAC component 24A may generate a command structure with each packet that specifies processing instructions for hardware-based MAC component 24B. Hardware-based MAC component 24B parses the command structure to extract and interpret processing instructions. Based on the instructions in the command structure, transmit logic 34 controls transmission of packets from queues 36, 38, possibly implementing a prioritization scheme, as

well as encryption and error detection by encryption module 42 and checksum generation module 44. In addition, QoS module 58 may be configured to perform link quality assessment and QoS adjustment, as will be described. (Emphasis added).

In the above citation, it is clear the software-based MAC component 24A may provide instructions to hardware-based MAC component 24B in a command structure sent with each packet. Furthermore, the above citation clearly states that based on the instructions, transmit logic 34 may implement encryption in encryption module 42. The command structure generated by software-based MAC component 24A may include an encryption field, as Edwards states in paragraph [0068], lines 10-14:

As shown in FIG. 10, command structure may include a sequence (SEQ) number field 64, a transmit condition field 66, a retransmit attempts field 68, a power level field 70, a transmit rate field 72, an encryption field 74 and a QoS field 76. (Emphasis added).

As clearly stated above, the command structure generated by software-based MAC component 24A may include an encryption field 74. With respect to this encryption field, Edwards states the following in paragraph [0072], lines 5-8:

Encryption field 74 indicates whether hardware-based MAC component 24B should apply encryption processing to the pertinent packet, or send the packet in a non-encrypted state. (Emphasis added).

As encryption field 74 is part of the command structure generated by software-based MAC component 24A, it is clear from the above three citations that encryption is performed by executing instructions of driver software (since software-based MAC component is part of driver software 37, as previously noted). As the Examiner “interprets encapsulation and decapsulation as encryption and decryption,” it is thus clear that by this interpretation (with which Applicant does not agree), Edwards does not teach or suggest “data frame encapsulation and decapsulation [] performed on a single-purpose hardware of said WLAN chip without executing software-implemented instructions of said driver software” as recited in the independent claims.

In fact, based on the Examiner's interpretation of encapsulation and decapsulation being equivalent to encryption and decryption, it is clear that Edwards teaches the opposite. That is, if one were to agree with the Examiner's interpretation of encapsulation as equivalent to encryption and decapsulation as equivalent to decryption, then it is clear from the above citations (and in particular, those from paragraphs [0068], and [0072]) that Edwards teaches that the functions that the Examiner interprets as encapsulation and decapsulation are performed as a result of hardware-based MAC unit 24B executing software-implemented instructions provided thereto by software-based MAC 24A of driver software 37. This teaching directly contradicts the Examiner's contention that Edwards teaches "data frame encapsulation and decapsulation [] performed on a single-purpose hardware of said WLAN chip without executing software-implemented instructions of said driver software."

In addition to the above, IEEE provides no teaching or suggestion that, taken singly or in combination with Edwards, would result in a combination of features including "data frame encapsulation and decapsulation [] performed on a single-purpose hardware of said WLAN chip without executing software-implemented instructions of said driver software." Absent this teaching in either Edwards, IEEE, or a combination of the two, the cited references fail to teach or suggest all of the elements of the independent claims. Accordingly, a case of obviousness has not been established, and thus Applicant respectfully requests removal of the 35 U.S.C. § 103(a) rejection.

With respect to the remaining claims, Applicant notes that each of these claims depends from one of the independent claims discussed above. Thus, for at least the same reasons given above, Applicant submits that a case of obviousness has not been established, and thus respectfully requests removal of the 35 U.S.C. § 103(a) rejections.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5800-00601/EAH.

Respectfully submitted,

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